Carnivorous Plants in Orange County, Florida

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I took a trip to Orlando on September 12, 1998 to visit some of my favorite carnivorous plant spots. I try to get back there every few months to take a few photos and relax. (For some reason I find it relaxing to drive two hours so I can slog through muck for several hours in the middle of a hot Florida day, carrying ten pounds of camera equipment.)

Orlando is north of an area of central Florida known as the Green Swamp. The Green Swamp is several hundred square kilometers (a few hundred square miles) of scrub, marsh and cypress domes. An advantage of the vigorous tourism industry is that the area does not have to rely on much heavy industry for income, so the area is kept relatively clean and natural.

The landscape is extremely varied and changes quickly. It is not unusual to start at the edge of a cypress dome, walk over a field of barren white quartz sand, push through a mass of palmetto scrub, pass underneath a spreading, 500 year-old oak, and find yourself at the edge of a marshy depression filled with *Sarracenia minor* and *Drosera capillaris*—all within a few hundred yards. Although much of this land is still mostly untouched by development, most of the plants I have found are growing in habitats that exist because of human activity. There are many old access roads cut through the scrub, and over the years the ditches and depressions left by heavy trucks have filled in with muck and water. Plants have quickly reclaimed these areas. The areas I visit most frequently have an excellent representation of central Florida's native species:

Sarracenia minor

The *Sarracenia minor* populations are sparse, despite the Green Swamp being a primary habitat for this species. The plants are typically alone or in pairs; only in one or two locations have I seen a "clump" of *S. minor*. On this trip I found many very healthy plants and I hope they can remain in the area. Their habitat is not what I would expect; they are nearly always under partial to heavy shade. This probably accounts for their very green appearance—they have very little other coloration. This is also probably why they are much less robust than plants from other areas. Often they have two or three times as many leaves lying along the ground as they have erect leaves.

Drosera capillaris and *Drosera brevifolia*

Drosera capillaris is so common here that I can identify it from fifty meters. It is the most common carnivorous plant here, even out-representing *Utricularia subulata*! In most areas, and particularly in this part of Orlando, *D. capillaris* is extremely variable. I have seen red plants, green plants, plants with long petioles, plants with almost no petioles, plants with compact and flat rosettes, plants with almost vertical leaves, and plants mixing these characters in every combination! *Drosera brevifolia* is also

here if you know where to look—they are nearly always hiding underneath the leaf detritus along the sides of the paths. I suspect there may be interbreeding between the species, and this may account for some of the high variability in the *D. capillaris*.

Pinguicula caerulea

At least one species of *Pinguicula* is (very sparsely) represented in the area. There may be one or two other species but I am not an expert *Pinguicula* identifier, and I have yet to see more than one or two plants in flower. I may have run across a very few plants of *P. pumila* the first time I trekked through these woods, but in every subsequent visit I have not been able to find any more. (I am tentatively identifying them, by memory, by their flowers and because of their small size.) I fear the rarity of *Pinguicula* is an indication of the very tenuous hold these plants have in the area.

Utricularia subulata and *Utricularia juncea*

These two species are by far the most common *Utricularia* in the area. On one of my first ventures through the woods and paths while I was a student at the University of Central Florida, I came upon a muddy ditch filled with tens of thousands of *Utricularia juncea* in flower. I keep hoping I will see this again, but I missed the mass flowering this season by a week or two; the ground was littered with drying inflorescences and seed capsules. In some places, the ground is totally covered with these plants, so much that it looks like moss!

Utricularia olivacea

During this trip I photographed *Utricularia juncea* growing in a wet ditch. I finished the roll, but as the camera motor rewound the film I noticed what looked like tiny bits of crumbled white Styrofoam covering the algae. Could it be another *Utricularia*?

I was very excited—enough to step too far into the water and fill up my wading boots! I had already seen three other *Utricularia* species of in this area, and as one of my quests is to see and photograph every native Floridian carnivorous plant species, I have become adept at identifying the native species. The only aquatic *Utricularia* with tiny white flowers that grows in this area is *U. olivacea*. I was pretty sure that actually catching it in flower was rare indeed! (Fortunately I was able to dig another roll of film out of the bottom of my camera bag to take some more photos.)

At first glance, *U. olivacea* is not too striking. It was growing tangled amongst the algae mat along the edge of the water, and its vegetative parts could be mistaken for small specimens of *U. gibba*. The flowers are faintly creamy-white, and they are very small! *Utricularia olivacea* is certainly one of the smallest species of *Utricularia* and may be one of the smallest flowering plants in the world (Figure 1, page 72, top).

The inflorescences are very short, sticking up only a cm or two out of the muck, and bear just a single flower barely 2-3 mm in size. The lower lip is split into two lobes, and I could not locate the spur with the naked eye. The overall appearance of the flower is very different from most *Utricularia* species I am familiar with, which made me uncomfortable with any immediate identification. (I had only my camera with me. I was not expecting to need a microscope and my copy of Peter Taylor's book!) The traps were almost all black with prey. Unfortunately, I didn't have equipment available to find out what they were eating.

The plants were growing in a rut in the road made some years ago by trucks. The water varied from a few cm to nearly a metre deep in some spots, but the plants were all growing along the very edge, where there was just enough water to keep them a few cm above the substrate. (Imagine this: take a spool of light green sewing thread, chop it into 10 cm pieces, make a bowl of chocolate pudding, throw the whole mess into a bowl and stir for fifteen minutes. Pour the mess along the edge of the ditch.) They shared the environment with lots of reeds, a few grasses and other species of *Utricularia*. The only animal life that was immediately evident in the water was the ever-present mosquito fish, *Gambusia affinis*, who were delighted any time I would stir up the mud.

I am a *Utricularia* fan, so when I got back home one of the first things I wanted to do was try to confirm the sighting. I sent email to Barry Meyers-Rice with my tentative identification of the plant and my belief that this was rarely seen in flower. When I received a reply, Barry seemed more excited about the find than I was! (Ignorance is blissful and unexciting as well, I suppose.) After a phone call and instructions from Barry, I planned to return to the site the next weekend to take samples to send to the local college's herbarium.

Possibly the less said about that return trip the better, since what should have taken a few hours took the entire day due to bad thunderstorms and some of the worst interstate traffic problems I have ever encountered. Hurricane Georges came past Florida very soon after that trip and the storms prevented me from ever being able to deliver the specimens to the herbarium while they were still in good condition, but I at least found something new on this second trip: *Utricularia striata*!

Utricularia striata

On the return trip, I ran across *U. striata*. It has always been there, but this time it was in flower. I thought I recognized the flower shape and coloration by plants I had seen in another location, but these caught my eye in particular because at the base of each inflorescence was another small bud of an inflorescence. I remembered reading in Taylor that this was often seen in other species, and could be used as an aid to identification, but I did not have my copy of Taylor with me (again! what was I thinking?) so I collected a few pieces for identification. I mailed them off to Barry who was kind enough to confirm my identification for me, and also commented that the tiny little aborted inflorescences were unusual.

I imagine that they could have been a result of the strange weather in Florida in the few weeks previous. It was not unusual for the temperatures to be in the 70's (°F) one day, and in the 90's (°F) the next; bone dry one day and pouring rain the next. I suspect that the plants probably started flowering when the weather seemed to be getting cooler and drier, then aborted when it suddenly became much hotter and very wet again a day or two later. Perhaps a few days later, the weather changed again, which resulted in the plants deciding to flower again, this time completing the process.

This whole experience has been very exciting for me, as I have only been seriously collecting and studying carnivorous plants for about a year and a half now. In just this short time I have had the good luck to get one step closer to my goal of "capturing" every native Floridian species on film, and with a species of plant that is not only uncommon, but is rarely seen in flower, and I managed both.

Photos of this and other trips of mine can be found on the world wide web at http://www.illusionary.com/~dglidden/cp/ucf/

Figure 1: The tiny white flecks of *U. olivacea* flowers. Article on page 69.

Figure 1: Close-up of *U. olivacea* with flowers; U.S. penny (1.9 cm diameter) included for scale. Article on page 73.